



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,749	02/20/2002	Kiyoshi Minoura	4034-7	3442

23117 7590 ~07/09/2003

NIXON & VANDERHYE, PC
1100 N GLEBE ROAD
8TH FLOOR
ARLINGTON, VA 22201-4714

EXAMINER

PRITCHETT, JOSHUA L

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,749

Applicant(s)

MINOURA ET AL.

Examiner

Joshua L Pritchett

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. §133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 7,8,14-16 and 20-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 9-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3 . 6) ☐ Other:

DETAILED ACTION

This action is in response to the election of claims 16-, 9-11 and 17-19 in Paper No. 5 filed June 5, 2003.

Election/Restrictions

Applicant's election of claims 1-6, 9-11 and 17-19 in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). The examiner agrees with the applicant's assertion of the claims that are related to the elected Species V shown in Figs. 10-12, as such the claims listed above will be examined as they pertain to the Species V (Figs. 10-12).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-6 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Jones (US 5,182,663).

Regarding claim 1, Jones discloses an optical element comprising a first member (30d), which has a first surface including a first concave portion (Fig. 3d); a second member (30d'), which has a second surface including a second concave portion (Fig. 3d) and which transmits incoming light therethrough (Fig. 3d), the first and second members being disposed so that the first and second surfaces are opposed to each other (Fig. 3d), wherein first and second reflective regions have been formed on the first and second concave portions respectively (Fig. 3d). Fig. 3d shows that incoming light A is reflected by the first concave portion and incoming light B is reflected by the second concave portion thus both the first and second concave portions inherently have reflective regions. Jones further discloses at least part of the incoming light that has been transmitted through the second member is reflected from at least one of the first and second reflective regions (Fig. 3d).

Regarding claim 3, Jones discloses wherein the first and second concave portions have substantially the same shape (Fig. 3d).

Regarding claim 4, Jones discloses wherein each of the first and second concave portions has a triangular pyramidal shape, and wherein the first and second concave portions constitute a part of a cube corner (col. 4 lines 1-3).

Regarding claim 5, Jones discloses wherein at least part of the incoming light that has been transmitted through the second member is reflected from both the first and second reflective regions so that the incoming light is retro-reflected (Fig. 3d). Fig. 3d shows incoming light A is

Art Unit: 2872

reflected by both the first member (30d) and the second member (30d') and returns in the direction of the incoming light.

Regarding claim 6, Jones discloses wherein at least one of the first and second reflective regions is made of a metal film (col. 4 lines 4-5).

Regarding claim 17, claim 17 is a method claim that merely involves providing the structure discussed in claim 1, therefore the claim is rejected using the same elements as claim 1.

Regarding claim 18, claim 18 is a method claim that merely involves providing the structure of claims 1 and 4; therefore the claim is rejected using the same elements as claims 1 and 4.

Regarding claim 19, claim 19 is a method claim that merely involves providing the structure of claim 1; therefore the claim is rejected using the same elements as claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Qin (US 6,304,364).

Jones teaches the invention as claimed including the first and second concave portions are disposed so that they do not face each other (Fig. 3d). Jones lacks reference to a flat portion in the first or second member. Qin teaches the use of a flat portion (24) in a light controlling optical element. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the flat portions of Qin in the Jones members for the purpose of offsetting the different pixels from one another.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Whitehead (WO 98/57212).

Regarding claim 9, Jones teaches the invention as claimed including the use of a light modulating layer (col. 2 lines 32-47), but lacks reference to the light modulating layer between the two elements. Whitehead teaches the location of the light modulating layer (32) between two reflective elements (24 and 28; Fig. 3B). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the light modulating layer taught by Jones between the reflective elements as taught by Whitehead for the purpose of creating a color display panel (Whitehead page 9 lines 25-35).

Regarding claim 10, Jones teaches the use of a light scattering light modulating layer (col. 2 lines 37-38).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Whitehead as applied to claim 10 above, and further in view of Sakata (JP 11-007008).

Jones in combination with Whitehead teaches the invention as claimed but lacks reference to the use of a flattening member to fill the concave portions. Sakata teaches the use of a flattening member (23) to fill the concave portions of a liquid crystal display device (abstract lines 11-12). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the flattening member as taught by Sakata to fill the first and second concave portions of Jones for the purpose of obtaining high visibility without lowering the reflection factor of the reflecting surface and the transmission of the liquid crystal layer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Benson (US 4,703,999) teaches cube corner retroreflective sheeting.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L Pritchett whose telephone number is 703-305-7917.

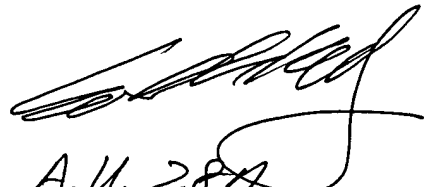
The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 703-305-0024. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Art Unit: 2872

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JLP
June 30, 2003



A.U. 2872
Eunha Cherry
Primary Examiner